City of Brentwood
Planning and Codes Department
5211 Maryland Way
P.O. Box 788
Brentwood, TN 37024-0788

Office (615) 371-2204
Internet www.brentwood-tn.org/planning
Inspection Request (615) 661-7077 (available 24/7)

♦ ***Residential Rough-In Inspection (RIF) - Framing, Mechanical and/or Plumbing*** ♦

2012 International Residential Code for One- and Two-Family Dwellings (IRC) 2012 edition with 2009 ICC IECC

Effective January 1, 2013 (modified April 25, 2013)

Date: _____ Permit # _____ [ ] Initial Inspection

Lot Number: _____ Subdivision: _____

Address: _____ [ ] Follow-up Inspection

Contractor/Applicant: _____ Inspector: _____

THE CONTENT OF THIS DOCUMENT IS NOT ALL INCLUSIVE

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
A.	**SITE**				
City	Re-inspection fee payment due prior to next inspection. Amount of $ _____				
City	All necessary sub-permits obtained (mechanical, plumbing, etc)				
City	Street is clear of all debris (mud, nails, rock, trash, wood, etc.)				
City	Portable toilet facility is on-site				
City	Site is identified via a numbered lot sign, visible from the street				
City	Erosion control is correctly installed & maintained				
City	Construction driveway is maintained				
City	Debris dumpster is on-site and not overflowing				
R105.7	Building permit placard is posted, visible from the street				
State	Electrical rough-in inspection has been approved				
State	Electrical underground installation completed				
City	Grinder pump rough-in has been approved (if applicable)				
City	Water & sewer underground lines installation completed				
R109.1.4	Roof covering installation is complete				
B.	**FRAMING**				
R106.4	Construction drawings: approved and complete set are on-site				
City	Max. building height does not exceed 52' or 42' for OSRD-IP				
R403.1.6	Mud sill plates are P.T. lumber; anchored w/ min. 1/2" dia. bolts; spaced max. 6' apart; extend min. 7" into concrete or grouted cells of concrete masonry units; bolts have washers and nuts; min. 2 bolts per plate; bolt not located >12" or <7 bolt diameters from each end of plate section				
R502.1 R602.1	Lumber is identified by grade mark (dimensional load-bearing)				
R602.3	Lumber components fastened per code				
R602.3.1	**Wall Studs** - size, height and spacing per code				
R602.3 T602.3.1	**Wall Studs** - max. allowable height is not exceeded				
R602.6	**Wall Studs** - **bearing and/or exterior:** ***bored/drilled*** =>40% to =<60% require doubled-studs (or stud shoes) with no more than two successive doubled studs bored.				
R602.6	**Wall Studs** - **bearing and/or exterior:** ***notched*** ***are*** ***not*** cut nor notched >25% of width				
R602.6	**Wall Studs** - **non-bearing:** ***bored/drilled*** =<60% with edge of hole no more than 5/8" to stud's edge and ***no*** cut or notch				
R602.6	**Wall Studs** - **non-bearing:** ***notched*** =<40% of a ***single*** stud width				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
B.	**FRAMING (continued)**				
R602.6.1	***Bearing wall top plates*** that have been bored / notched >50% are properly plate-strapped and contain 8-10d nails each side. Metal tie extends min. 6" past the opening.				
R602.3.2	Double top plates provided, unless exception for single top plate has been met (walls)				
R602.3.2	Top plate joints are offset a minimum of 24"				
R602.3.4	Bottom (sole) plate support for bearing wall studs				
	Untreated lumber isolated from contact with masonry / concrete				
	Install header at HVAC return air located in bearing wall				
R602.7	Header spans are not exceeded				
Table R502.5(1)	Jack studs at bearing headers / correct number per code				
R602.10	Walls braced in accordance with code				
	Knee walls braced at intervals of 48" on center				
	Floor joists (including floor trusses): 1st floor - floor system layout was approved by prior inspection. If not, refer to that inspection checklist and attach list of issues				
	Lumber species, grade, sizing, spacing and length, comply with plans / code / engineered lumber layout drawings				
	Floor joists spans are not exceeded				
R502.7	Floor joists: ends are supported laterally				
R502.6 R802.6	Floor joists: ends meet min. bearing requirements or are supported by hangers or ledger strip				
R502.8	Floor joists: cutting, notching and drilling of structural floor members meet code. Check for cuts and/or holes in webs and chords of engineered lumber.				
	Engineered lumber: squash blocking / panel blocking installed per plan				
R502.10	Floor framing openings framed with header and trimmer joists				
	1st floor: floor-system layout is per approved plans				
	Floor / ceiling joists (including floor trusses): Lumber species, grade, sizing, spacing and length, comply with plans / code / engineered lumber layout drawings				
	Floor / ceiling joists spans are not exceeded				
R502.7	Floor / ceiling joists: ends are supported laterally				
R502.6	Floor / ceiling joists: ends meet min. bearing requirements or are supported by hangers or ledger strip				
R502.8	Floor / ceiling joists: cutting, notching and drilling of structural floor members meet code. Check for cuts and/or holes in webs and chords of engineered lumber.				
	Engineered lumber: squash blocking / panel blocking installed per plan				
R502.10	Floor framing openings framed with header and trimmer joists				
	2nd floor: floor-system layout per approved plans				
R802.1	**Ceiling joists**: Lumber species, grade, sizing, spacing and length, comply with plans / code / engineered lumber layout drawings				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
B.	**FRAMING (continued)**				
	Ceiling joists not over-spanned				
R802.3.2	Ceiling joists: ends that are lapped or butted comply w/code				
R802.6	Ceiling joists: ends meet min. bearing requirements or are supported by hangers or ledger strip				
	Ceiling joists: cutting, notching and drilling of structural floor members meet code. Check for cuts or holes in webs and chords of engineered lumber.				
R802.7.1.2	Ceiling joist taper cuts at the end of the ceiling joists do not exceed 1/4 the depth of the member				
R802.1	**Rafters:** Lumber species, grade, sizing, spacing and length, comply with plans / code / engineered lumber layout drawings				
	Rafters are not over-spanned				
R802.6	Ends of rafters (lower) meet min. bearing requirements				
R802.11.1.3	Rafters connected to wall top plates (unless exception met) provide uplift resistance				
R802.3	Ridge boards, hip main rafters, valley main rafters shall not be less in depth than the cut end of rafters				
R802.3	Main roof framing components are supported to bearing. Roof bracing exceeding 8 feet in length requires “Tee” brace				
R802.3.1	Collar ties at rafters: min. 1”x4” and spaced =< 4’ on center				
R802.5.1	Purlins are sized no less than the rafter they support; are continuous and supported by 2x4 braces installed to bearing walls at a slope not less than 45 degrees; supported at 48” max. on center; and, bracing >8 feet in length are constructed as “Tee” brace				
	Double rafters at dormers, skylights, etc.				
R802.9	Openings in roof & ceiling framing: framed with header & trimmer joists. Headers supported by hangers or ledger strip				
	Ends of mid-ridge rafters are supported w/hangers or ledger strip				
	Rafter splices supported to bearing				
	Masonry veneer steel angle installed and fastened; Triple rafter support for brick load is braced to bearing				
R802.1	**Roof Trusses:** Lumber species, grade, sizing, spacing and length, comply with plans / code / engineered lumber layout drawings				
R802.11.1.2	Roof trusses connected to wall top plates (uplift resistance)				
	Roof truss system braced per plan				
R802.7	Structural roof members are not cut, bored or notched in excess of code allowances. Nor are they damaged				
	All structural point loads are fully transferred to bearing from roof to foundation				
	Attic ventilation: Openings in roof sheathing meet code requirements. Where ridge vents are installed, roof sheathing has been cut back per ridge vent installation instructions. Again verify at final inspection				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
B.	**FRAMING (continued)**				
	Hangers are missing at: joists / beams / trusses / other				
	Hangers are packed-out @ joists / beams / other				
	Hangers are the correct size / type for the application				
	Hanger fasteners appear to be of the *correct* ***type***				
	Hanger fasteners appear to be of the *correct* ***quantity***				
R802.6	**Dimensional lumber:** ends of rafters, ceiling joists, floor/ceiling joists, beams, girders, etc. meet min. bearing requirements				
	Engineered lumber: ends of rafters, ceiling joists, floor/ceiling joists, beams, girders, etc. meet min. bearing requirements				
	Ends of multi-ply structural members (e.g. beams, girders, I-joists / LVLs, etc.) are supported for full-thickness to bearing				
	Ledger strips - min. number of fasteners and fastener size are provided per code				
	LVL bolted per Mfgr's specifications				
	Layout of all rooms and other spaces comply with approved drawings. No additional rooms or spaces added				
C.	**FIREBLOCKING / FIRESTOPPING / DRAFTSTOPPING**				
R302.5	Garage / carport separation properly maintained from habitable spaces (openings / penetrations)				
	The following are fireblocked with approved materials: chases, fireplace chases, voids, walls at drop ceilings, walls at 10' height intervals, walls at ceiling height, gap between top plates of side-by-side walls				
	Walls at stair stringers and stair landings are fireblocked, parallel w/stair stringers and stair landings and all penetrations are sealed with approved materials				
	Roof offset(s): walls are fireblocked parallel with rafter(s) and penetrations thru fireblocking are firestopped with approved materials				
	Top & bottom wall plates: penetrations sealed with approved materials				
	Penetrations thru fireblocking sealed with approved materials				
	Penetrations thru fireblocking at walls of stair stringers and stair landings are sealed with approved materials				
	Tub / shower: DWV & supply piping thru subfloor are fireblocked / firestopped with approved materials				
	Basement - gap at stud wall top plate and concrete foundation wall (running parallel to one another) fireblocked with penetrations firestopped				
R302.12	**Draftstopping** is installed so that areas of the concealed spaces do not exceed 1,000 sq. ft. Draftstopping has divided the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping is provided in floor/ceiling assemblies under the following circumstances: 1) Ceiling is suspended under the floor framing; 2) Floor framing is constructed of truss-type open-web or perforated members.				
	Draftstopping consist of the material, material thickness, per code and is properly supported				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
C.	**FIREBLOCKING / FIRESTOPPING / DRAFTSTOPPING (continued)**				
City	**Fireplace chase-flue within the attic space** shall be draft-stopped. Draft-stopping materials shall not be less than ½" gypsum board, 3/8" wood structural panels or other materials approved by the building inspector and shall be adequately supported. Penetrations through draft-stopping materials shall be supported and sealed with approved materials to maintain the integrity of the assembly.				
D.	**PLUMBING**				
P2503.7	**Water Supply Piping** Water supply pressure test: Gauge reading exactly at 100psi				
	Replace defective test gauge				
P2903.3.1	Pressure reducing valve installed				
	Water supply piping is supported at max. distances of: copper @ 6' o.c.; PEX @ 32" o.c.; CPVC @ 3' o.c.				
	Air chambers required (water hammering)				
	Shower valve bodies and heads supported				
	Primer evident on joists				
P2903.9	Shutoff valves for main service and water heater installed				
P2503.5	**DWV Piping** Plumbing drain test: 10' head test above highest fitting section in that section or to the highest point of the completed system or by air test @ 5psi **(AIR TEST NOT PERMITTED ON PLASTIC)**				
	Bathtubs filled with water above the overflow w/ plugs removed				
	Shower liner test (min. 2" water depth)				
	DWV piping supported 4' o.c. horizontal				
	DVW piping =< 2" dia. is supported midway in wall (vertical runs)				
	DWV piping sized, and sloped correctly in the correct direction				
	DWV cleanouts provided, accessible with min. clearances				
	Primer evident on joists				
	Slab openings around bathtubs, showers, piping, etc. sealed				
P2603.2.1	**Water Supply Piping and DWV Piping** Water supply piping less than 1-1/2" to the edge of studs, joists, rafters is protected against physical damage by steel shield plates, extending not less than 2" above sole plates and below top plates				
P2603.2.1	DWV piping less than 1-1/2" to the edge of studs, joists, rafters is protected against physical damage by steel shield plates, extending not less than 2" above sole plates and below top plates				
P2720.1	Bathtubs equipped with circulation pumps shall be provided with an access opening per Mfgr. or code for pump removal (12"x12" / 18"x18" when >2' from access)				
R307 P2705.1	Bath, toilet and shower spaces: rough-ins for fixtures are spaced in accordance with code				
P2603.5	Piping subject to freezing not installed at exterior walls, attics or crawl spaces unless adequate provision to protect from freezing				
M2005.2	**Water heaters** Fuel-fired water heater is *not* located in a storage closet. If located in bedroom or bathroom, shall be in an enclosure and provided with combustion air				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
D.	**PLUMBING (continued)**				
P2801.6	**Water heater:** when located in garage, water heater's ignition source is elevated min. 18" above garage floor.				
M1305.1.3 M1305.1.3.1 M1305.1.4	Water heater installed in attic and/or crawl space: passageway and illumination of passageway are per code				
P2801.5	Other locations where water leakage could cause damage, an approved pan under the water heater has been provided.				
P2801.5	The pan is drained by an indirect waste pipe, not less than 3/4" of approved material; and extend full-size and terminate over an indirect waste receptor or shall extend to the building's exterior between 6" - 24" above the adjacent ground surface				
	A pressure/temperature (P/T) relief valve has been installed and the release mechanism releasing mechanism is not obstructed				
	The P/T relief valve discharge pipe is not directly connected to the drainage system;				
	Fuel-fired water heater has required combustion air supply provided or appliance is listed as Direct Vent				
E.	**MECHANICAL**				
	Gas supply line system test: Gas supply test gauge reading maintained 15 psi for 15 minutes				
	Replace defective / inaccurate gas test gauge				
City	Gas gauge face type is max #30				
	Fuel gas piping is properly supported / strapped				
	Piping unions are not located in concealed area(s)				
M1502.4.4 Table M1502.4.4.1	**Clothes dryer** vent piping length does not exceed 35' in length. See Table for duct fitting equivalent length				
	Clothes dryer vent piping is rigid metal duct, assembled without screws and supported at 12' max. intervals				
	Clothes dryer vent does not terminate less than 3' from openings into buildings				
	Bath and/or toilet rooms: an operable window or exhaust fan has been provided				
	Exhaust fan hoses are securely attached to exhaust fan housing and routed to eave / exterior wall / roof cap				
	Gas shut-off valves accessible				
	Gas shut-off valves accessible if located in concealed areas				
	Appliances to be accessible for service, repair and replacement				
	Appliance connections and proper venting in place				
	Clearances from Type-B vent piping and combustible materials				
	Gas vent piping has min. 1/4"/ft. upward slope				
	Gas vent piping is properly supported				
	Gas vent termination - minimum height from roof to lowest discharge opening				
	Auxiliary drain pan and condensate discharge installed				
	Condensate drain lines supported and sloped				
M1602.2	Return air - outdoor & return air not taken from prohibited sources				
M1701	**Combustion air** requirements in compliance				

Ref	Inspection Category and Item	Pass	Shall Correct	N/A	Comment
E.	**MECHANICAL (continued)**				
	HVAC duct located in garage and penetrating the garage separation barrier, shall be a min. 26ga steel				
403.2 IECC	Supply ducts (HVAC) located in attics are R-8 insulated. All other ducts, R-6. No insulation required if ducts are located completely inside the building thermal envelope.				
403.2.2 IECC	All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed.				
403.2.3 IECC	Building framing cavities are not used as supply ducts				
403.3 IECC	Mechanical system piping capable of carry fluids above 105 ^{0} F. or below 55 ^{0} F. are insulated to a min. R-3				
	Isolate direct contact of dissimilar metals (i.e. copper - steel)				
	Fireplaces Factory and masonry fireplaces: clearances from combustibles comply with product installation instructions/code				
	New wood-burning fireplaces provided with gasketed doors and combustion air supplied from outdoor				
	Gas shut-off valve for fireplace is outside of firebox but is within 6' of fireplace/firebox assembly				
	Gas supply piping penetration into fireplace chase is fire-caulked				
	Fireplace flue piping strapping has been installed per manufacturer's installation instructions				
	Fuel gas appliances not installed in prohibited locations. See code exceptions				
R903.2.1	A cricket or saddle is installed on the ridge side of any chimney or penetration more than 30 inches wide as measured perpendicular to the slope.				
R1003.9	Chimney - shall extend 2' higher than any portion of the building within 10', but not less than 3' above the highest point when passing thru roof.				
F.	**FENESTRATION / GLAZING AT HAZARDOUS LOCATION**				
	Windows, doors and skylights, located in the building thermal envelope, are NFRC labeled. Compare the U-factor with approved construction drawings. Verify that windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per square foot. Swinging doors have an air leakage rate of no more than 0.5 cfm per square foot.				
R308 R308.4	Safety glazing installed and labeled at hazardous locations. Glazing in doors; adjacent to doors; in windows; in guards and railings; at wet surfaces; adjacent to stairs and ramps; etc.				
G.	**BUILDING ENVELOPE**				
	All joints, seams, penetrations, openings, cracks, etc. thru exterior wall sheathing and floors have been sealed to limit air and moisture infiltration.				
	All recessed luminaries, located in the building thermal envelope, are listed as IC-rated and labeled as meeting ASTM E 283.				
403.2.2	**Duct tightness testing verified via rough-in test** via 3rd party. Documentation received (test exempt if air handler and all ducts located within the conditioned space)				
403.2.2	**Duct tightness testing to be verified via post-construction test**, via 3rd party. Documentation pending. (test exempt if air handler and all ducts located within the conditioned space)				

H.	**LIFE SAFETY**				
R314 R315	Smoke alarm and carbon monoxide boxes are at required locations & identified with red/orange paint or red-colored boxes				
	Emergency escape and rescue openings. Required for basements, habitable attics and every sleeping room. Minimum 5.0 sq ft for grade floor openings; Minimum 5.7 sq ft for all other; Minimum height opening 24" net clear; Minimum width opening 20" net clear; Maximum sill height 44"				
R312.2	Where the opening of an operable window is located more than 72" above the finished grade or surface below, the lowest part of the clear opening of the window shall be a min. of 24" above the finished floor. Where openings of operable sections of windows are less than 24" of the finished floor, windows openings do not allow passage of a 4" diameter sphere or are equipped with window opening control devices, listed in compliance with ASTM F2090. When located at emergency egress and rescue openings, the window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by code.				
	Means of Egress Min. 1 egress door, 32" min. clear width (single leaf side-hinged)				
R311.7.2	Stairways have minimum headroom clearance 6'-8" (6'-6" spirals) and 36" min. clear width				
R311.7.3	Stairways, ramps, landings, winders, risers, treads and tread nosings are required to be code complaint. e.g max. riser height 7-3/4"; min. tread depth 10"; not varying 3/8" in run, etc. Will vary at final inspection.				
	Stair ***landings*** are structurally supported				
	Stair ***stringers*** are structurally supported				
R311.7.3	Flight of stairs do not have a vertical rise greater than 12 feet between floor levels or landings.				
	Stair landing at either side of all exterior doors				
R303.7	Stairs/landings located inside and/or outside are provided with means of illumination.				
City	Safety rails at stairs, landings, crossovers and walkovers exceeding 30" to grade or floor are in place during construction				
I.	**RADON**				
	Radon piping installed in slabs (as required), attic, crawl, basement. Properly identified in exposed and visible locations with the *label*, "Radon Reduction System"				
	Radon piping has a 110-volt electrical outlet located within 6 feet of radon piping and where applicable and has a 24" walkway to the electrical outlet and radon piping				
J.	**CRAWL SPACE**				
	All construction material debris, vegetation and organic matter have been removed from the crawl space area				
R408.1	Crawl ventilation vents are installed at locations and in the amount per code unless meeting unvented requirements				
M1305.4	HVAC and appliances installed in crawl spaces are capable of being removed thru an adequate access opening. Travel path from access to appliance does not exceed 20 feet and travel path is illuminated. If no appliance equipment exist, then min. access opening is 16" x 24"				

K.	**ATTIC ACCESS**				
City and Code	**Attic access** Access to attic spaces must be provided through permanent stationary stairs from the floor below or pull-down attic stair, measuring at least 25 inches by 54 inches, and rated for 350 pounds. Attic spaces exceeding 2,000 square feet require two accesses, to be placed apart from each other by a distance of not less than one-half of the length of the maximum overall diagonal dimension of the attic area. If a second attic access is required, the rough-framed dimensions shall not be less than 30 inches by 30 inches. * Ceiling opening min. 30"x30" attic access w/ 30" min. vertical head clearance; * Wall opening min. 30" wide x 30" high; * In all cases, opening(s) shall be large enough to accommodate the removal of appliances, if applicable; * Travel distance to the appliance, if applicable, shall not exceed 20' and have 24" wide continuous solid flooring (see exception). * A luminaire controlled by a switch located at or near the opening				
L.	**OTHER**				
R905.2.8.5	**Drip edge** is provided at eaves and gables of shingle roofs.				
R703.7.3	**Lintels** See the code regarding min. / max. height of masonry veneer above openings and allowable spans for lintels supporting masonry veneer				
	Structural support posts are mechanically connected at top (structure) and bottom (slab/grade beam)				
	Remove wood from brick ledge at foundation				
	Porch pit(s): all wood and other bio-degradable items have been removed				
	Provide product information for:				
	Structural engineer is to investigate and provide report for the follov				
M.	**ADDITIONAL COMMENTS (use additional pages if necessary and attach)**				
Note	**To request a reinspection, call the *Inspection Request Line* anytime, (615) 661-7077. Follow message prompts.**				

_____ _____

Inspector's signature Date of signature